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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/617,778

07/14/2003

Hsueh-Jyh Li

BHT-3092-375

4036

7590

10/01/2004

BRUCE H. TROXELL

SUITE 1404

5205 LEESBURG PIKE

FALLS CHURCH, VA 22041

EXAMINER

A, MINH D

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/617,778

Applicant(s)

LI ET AL.

Examiner

Minh D A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 4-21 and 24-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***DETAILED ACTION***

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 9, 20 and 22 are rejected under 35 U.S.C. 102(b) as being unpatentable by Rutkowski et al (US 6,198,442).

Regarding claims 1 and 20, Rutkowski discloses a multi-meandered antenna with multiple bands and single input using in a vehicle wireless communication environment, comprises: at least one meandered antenna (53a and 53b), coupled to said input end (feed point) for transmitting or receiving said wireless signal; whereby, said multi-meandered antenna with multiple bands and single input can satisfy the various wireless communication requirements of said vehicle after combining. See figure 5, col.4, 65-67 to col.7, lines 1-44.

Regarding claims 2 and 22, Rutkowski discloses wherein said various wireless communication requirements comprise mobile communications. See figure 3.

Regarding claim 9, Rutkowski discloses wherein said at least one meandered antenna (53a and 53b) further comprises a first meandered antenna and a second meandered antenna. See figure 5, col.5, lines 5 to col.7, lines 1-44.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Rutkowski et al (US 6,198,442).

Regarding claims 3 and 23, Rutkowski essentially discloses the claimed invention but does not explicitly disclose that the metal body is the roof of the vehicle or the body is the body of the vehicle. It would have been an obvious matter of design choice to employ Rutkowski in any desired interest environment such as the body of vehicle or the roof of vehicle in order to maximize the usage of his invention, since applicant does not disclose that, all of these limitations can solve any stated problem and for any particular purpose. Therefore, it appears that the invention would not provide any improvement but merely apply the invention in different presentation.

***Allowable Subject Matter***

5. Claims 4-8,10-15, 11-19 and 21, 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach that, wherein the shape of said meandered antenna is the first end of said meandered antenna extending right a first horizontal segment and extending upward a first vertical segment, extending left a second horizontal segment and extending upward a second vertical segment, extending right a third horizontal segment and extending, downward a third vertical segment, and extending left a fourth horizontal segment and extending downward a fourth vertical segment in dependent claims 4 and 21.

The prior art does not teach that, wherein the shape of said first meandered antenna is: the first end of said first meandered antenna extending right a first horizontal segment and extending upward a first vertical segment, extending left a second horizontal segment and extending upward a second vertical segment, extending right a third horizontal segment and extending downward a third vertical segment, extending left a fourth horizontal segment and extending downward a fourth vertical segment and extending right a fifth horizontal segment in dependent claims 10 and 11.

### ***Conclusion***

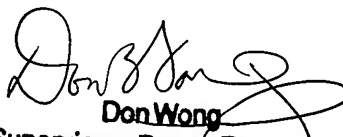
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rutkowski et al (US 6,204,826) and Sanford et al. (US 6,424,300) are cited to show a plurality of antennas.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

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If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800

Examiner

Minh A

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9/30/04